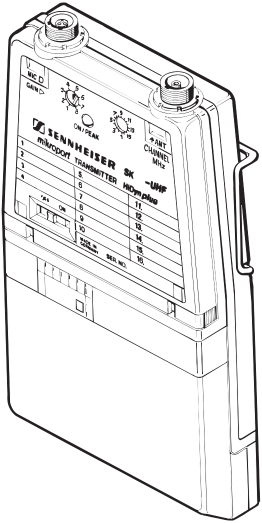
SENNHEISER

SK 50 SK 250

Bedienungsanleitung
Instructions for use
Notice d'emploi
Istruzioni per l'uso
Instrucciones para el uso
Gebruiksaanwijzing
Bruksanvisning



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SK 50
SK 250

INSTRUCTIONS FOR USE
MIKROPORT BODY-PACK TRANSMITTER

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1. BRIEF DESCRIPTION

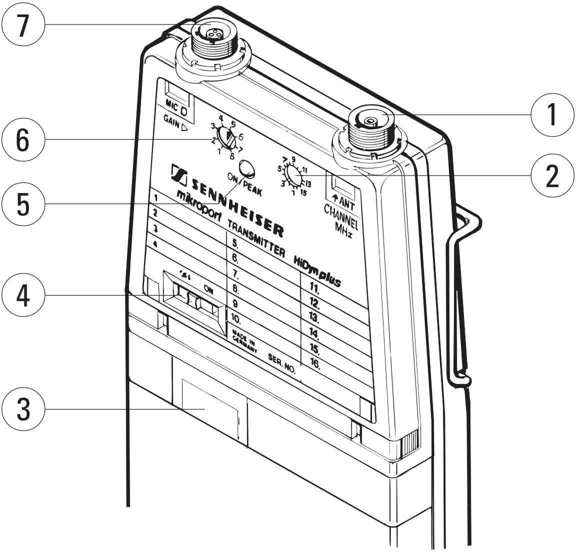
MODELS	FREQUENCY RANGE	SWITCHING BAND WIDTH	CHANNELS
SK 50 UHF	450 bis 960 MHz	24 MHz	16
SK 250 UHF	450 bis 960 MHz	24 MHz	16
SK 50 VHF (1)	138 bis 160 MHz	22 MHz	16
SK 50 VHF (2)	153 bis 181 MHz	28 MHz	16
SK 50 VHF (3)	174 bis 202 MHz	28 MHz	16
SK 50 VHF (4)	195 bis 223 MHz	28 MHz	16
SK 50 VHF (5)	223 bis 260 MHz	37 MHz	16
SK 250 VHF (1)	138 bis 170 MHz	38 MHz	16
SK 250 VHF (2)	170 bis 225 MHz	55 MHz	16
SK 250 VHF (3)	210 bis 260 MHz	50 MHz	16

In combination with a connected microphone, the transmitter can be used as a cordless microphone. Its flat shape and small dimensions make this design especially well - suited for particular applications in which an inconspicuous appearance is required, as is the case with film and television productions, for example. To reduce interference and to improve the signal-noise ratio, SK 50 and SK 250 transmitters are equipped with the "**HiDyn *plus***" noise reduction system. In combination with a receiver which is also equipped with this system (e.g. EM 1046), a connection can be established, which is characterised by excellent operational reliability and supreme transmission quality.

FEATURES:

- Metal injection-moulded casing with quick-change energy pack
- State-of-the-art PLL technology, 16 switchable channel
- Sennheiser **"HiDyn *plus***" compander
- Signal-to-noise ratio > 108 dB (A)
- Integratal voltage converter for constant output power through to complete discharge of the battery or rechargeable battery
- Operating time display with blinking warning
- Battery status transmission to the receiver
- Operating and peak deviation indicator

2. CONTROLS AND CONNECTIONS



1 ANTENNA SOCKET
2 CHANNEL SELECTION SWITCH
3 OPERATING TIME DISPLAY
4 ON / OFF SWITCH
5 OPERATING / PEAK DEVIATION INDICATOR
6 SENSITIVITY SELECTOR SWITCH FOR MICROPHONE INPUT
7 MICROPHONE INPUT

3. MICROPHONE SELECTON

The MKE 2-4, MKE 102-4 (omnidirectional polar pattern) and MKE 40-4 (cardioid polar pattern) Lavalier chlip-on microphones are available. They are equipped with a special Lemo plug. The plug is disconnected by unscrewing the threaded collar.

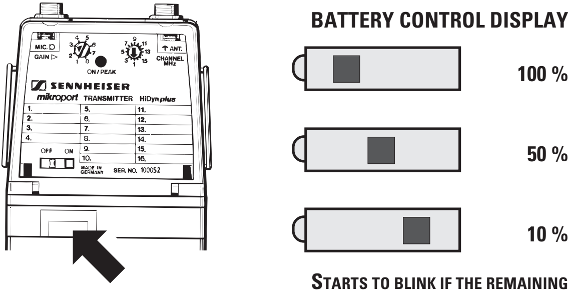
The voltage necessary to operate these microphones is available at the microphone input of the transmitter. Dynamic microphones and other low-impedance sources can be connected through an external coupling condenser of approx. 10 µF (+pole on contact 2).

4. USING FOR THE FIRST TIME

4.1. B 50 / B 250 QUICK-CHANGE ENERGY PACK

Insert the batteries as described on page 22, Fig. 2 and Fig. 3.
After insertion of the batteries, the cover of the quick-change energy pack is to be snapped into place. The LED display on the front side of the energy pack (Fig. 1) serves as a battery control display.

FIG. 1



STARTS TO BLINK IF THE REMAINING OPERATING TIME FALLS BELOW. 30 MIN.

FIG. 2

QUICK-CHANGE ENERGY PACK B 50

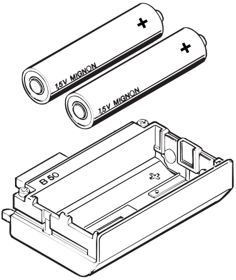
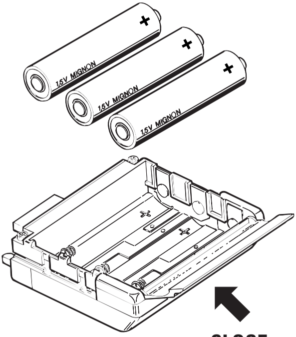


FIG. 3

QUICK-CHANGE ENERGY PACK B 250



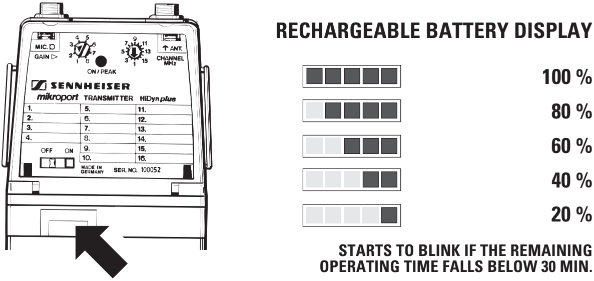
NOTE:

ALKALINE-MANGANESE BATTERIES OF THE "MIGNON" LRC AA TYPE ARE TO BE USED EXCLUSIVELY. PERFECT FUNCTIONING OFTHE TRANSMITTER IS GUARANTEED ONLY WITH THIS TYPE OFBATTERY.

4.2. BA 50 / BA 250 QUICK-CHANGE ENERGY PACK

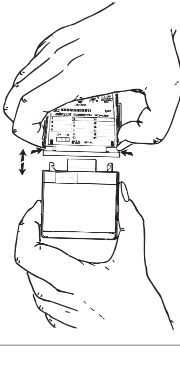
The LCD display on the front side of the energy pack (Fig. 4) servers as a battery control display.

FIG. 4



In addition to the visual display on the quick-change energy pack, the transmitter communicates the status of the batteries or the rechargeable batteries to the EM 1046 for presentation on the receiver display.

FIG. 5



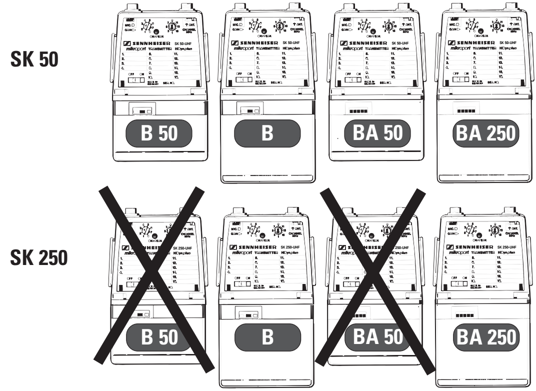
RELEASING THE QUICK-CHANGE ENERGIE PACK

Squeeze the catch with the thumb and index finger, and separate the transmitter from the quick-change energy pack.

To attach the quick-change energy pack, simply let the quick-change energy pack snap into the transmitter.

4.3. POSSIBLE COMBINATIONS OF TRANSMITTERS WITH THE QUICK-CHANGE ENERGY PACK

FIG. 6



The SK 250 / B 50 and SK 250 / BA 50 combinations are not possible because the power of the battery / rechargeable battery pack is not adequate for this transmitter.

5. CHANNEL SELECTION

To select the appropriate channel or the appropriate frequency in accordance with the type plate, move the channel selection switch 2 to the desired position.

6. SWITCHING ON

After attaching the quick-change energy pack, the transmitters is switched on by moving the operating switch 4 into the "ON" position. The red operating indicator 5 lights up. Should the operating indicator not light up, check the quick-change energy pack.

7. SENSITIVITY SELECTOR SWITCH

The sensitivity selector switch 6 can be used to adapt the gain of the microphone input in 8 steps to the level of the sound expected. This setting is to be made in combination with a receiver which has a peak indicator available, such as the EM 1046. The sensitivity is set correctly when the "peak" indicator 5 lights up brightly during level peaks. The microphone is to be held or mounted in its position for later use when setting. The corresponding display on the EM 1046 receiver indicates a maximum deviation of approx. 125 %.

In practice, the following guide values have proven themselves for the adjustment of the sensitivity setting:

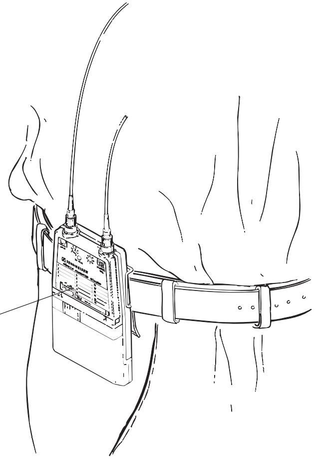
Position 2,3	=	Loud voices, songs, theatre
Position 3,4,5	=	Normal voices, talkshows, interviews
Position 6,7	=	Soft voices
Position 8	=	Use only for connection with a dynamic microphone !

8. ATTACHMENT OF THE BODY-PACK TRANSMITTER

Its small dimensions and flat form make it possible to carry the transmitter easily in a jacket pocket or trousers pocket. The device is to be protected against falling out by a tight gripping clip with which the transmitter can also be attached to the waistband or to a belt (Page 26, Fig. 7). To attach the transmitter with the connections facing downwards, simply reverse the clips.

The nylon transmitter pouch with Velcro closure (accessory) provides effective protection against moisture for actors who perspire heavily.

FIG, 7



Note:

The transmitter can also be attached so that the cable and antenna point downwards.

9. LICENSING REGULATIONS

The type plate contains the channel data and the transmit frequency data as well as the BZT approval, which you require for your application for the licence from the Post Office. It is located on the underside of the device.

10. TECHNICAL DATA SK 50 UHF / SK 250 UHF

Transmit frequencies	16
Frequency range	450 - 960 MHz
Switching band width	24 MHz
Frequency stability	± 5 ppm
Spurious and emmissions	< 4 nW
Modulation	FM
Nominal / peak deviation	± 40 kHz / ± 56 kHz
Compander	Sennheiser **HiDyn *plus***
Input sensitivity for peak deviation	13.2 mV - 1.55 V 8-position switch
Audio frequency range	70 Hz - 20 kHz
Dynamics	110 dB(A) eff.
THD	< 0.3 % (nominal peak / 1 kHz)
Connections	AF: Lemo special (3-pin) RF: Lemo special Koax
Dimensions with power pack	94 x 60 x 17 mm with B 50 / BA 50 116 x 60 x 17 mm with B 250 / BA 250
Weight with power pack	approx. 197 g with B 50 / BA 50 approx. 230 g with B 250 / BA 250

	SK 50 UHF	**SK 250 UHF**
RF output power	50 mW / -3 dB	250 mW / -1 dB
Operating time with primary cells	B 50: > 4.5 h B 250: > 9 h	cannot be used B 250: > 3 h
Operating time with rechargeable battery	BA 50: > 3 h BA 250: > 5 h	cannot be used BA 250: > 2.5 h
Delivery includes for SK 50 UHF	1 SK 50 UHF body-pack transmitter 1 marking set 1 antenna (aligned) 1 instructions for use	
Delivery includes for SK 250 UHF	1 SK 250 UHF body-pack transmitter 1 marking set 1 antenna (aligned) 1 instructions for use	

Erros and omissions excepted. Subject to alterations and corrections.

11. TECHNICAL DATA SK 50 VHF

Transmit frequencies	16	
Frequency range	SK 50 VHF (1)	138 ... 160 MHz
	SK 50 VHF (2)	153 ... 181 MHz
	SK 50 VHF (3)	174 ... 202 MHz
	SK 50 VHF (4)	195 ... 223 MHz
	SK 50 VHF (5)	223 ... 260 MHz
Switching band width	SK 50 VHF (1)	22 MHz
	SK 50 VHF (2)	28 MHz
	SK 50 VHF (3)	28 MHz
	SK 50 VHF (4)	28 MHz
	SK 50 VHF (5)	37 MHz
Frequency stability	± 10 ppm	
Spurious and emmissions	< 4 nW	
Modulation	FM	
Nominal / peak deviation	± 40 kHz / ± 56 kHz	
Compander	Sennheiser **HiDyn *plus***	
Input sensitivity for peak deviation	13 mV - 1.55 V 8-position switch	
Audio frequency range	70 Hz - 20 kHz	
Dynamics	110 dB(A) eff.	
THD	< 0.3 % (nominal peak / 1 kHz)	
Connections	AF: Lemo special (3-pin) RF: Lemo special Koax	
Dimensions with power pack	94 x 60 x 17 mm with B 50 / BA 50 116 x 60 x 17 mm with B 250 / BA 250	
Weight with power pack	approx. 197 g with B 50 / BA 50 approx. 230 g with B 250 / BA 250	
RF output power	50 mW / -2 dB	
Operating time with primary cells	B 50: > 6 h B 250: > 13 h	
Operating time with rechargeable battery	BA 50: > 4 h BA 250: > 6.5 h	
Delivery includes	1 SK 50 VHF body-pack transmitter 1 marking set 1 antenna (aligned) 1 instructions for use	

11. TECHNICAL DATA SK 250 VHF

Transmit frequencies	16
Frequency range	SK 250 VHF (1) 138 ... 170 MHz SK 250 VHF (2) 170 ... 225 MHz SK 250 VHF (3) 210 ... 260 MHz
Switching band width	SK 250 VHF (1) 38 MHz SK 250 VHF (2) 55 MHz SK 250 VHF (3) 50 MHz
Frequency stability	± 10 ppm
Spurious and emmissions	< 4 nW
Modulation	FM
Nominal / peak deviation	± 40 kHz / ± 56 kHz
Compander	Sennheiser **HiDyn *plus***
Input sensitivity for peak deviation	13 mV - 1.55 V 8-position switch
Audio frequency range	70 Hz - 20 kHz
Dynamics	110 dB(A) eff.
THD	< 0.3 % (nominal peak / 1 kHz)
Connections	AF: Lemo special (3-pin) RF: Lemo special Koax
Dimensions with power pack	116 x 60 x 17 mm with B 250 / BA 250
Weight with power pack	approx. 230 g with B 250 / BA 250
RF output power	250 mW / -1 dB
Operating time with primary cells	B 50: cannot be used B 250: > 2.5 h
Operating time with rechargeable battery	BA 50: cannot be used BA 250: > 2.5 h
Delivery includes	1 SK 250 VHF body-pack transmitter 1 marking set 1 antenna (aligned) 1 instructions for use

Erros and omissions excepted. Subject to alterations and corrections.

CE 0682 ⓘ

KONFORMITÄTSERKLÄRUNG

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark erklären, daß dieses Gerät den einschlägigen Anforderungen der EG-Richtlinie 89/336/EWG entspricht.
Zur sachgemäßen Umsetzung der in den EG-Richtlinien genannten Anforderungen wurden folgende Normen herangezogen:

ETS 300 445
ETS 300 422

Bemerkung:
Vor Inbetriebnahme sind die jeweiligen länderspezifischen Vorschriften zu beachten!

CERTIFICATE OF CONFORMITY

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark declare that this device conforms to the basic requirements of EEC Directive 89/336/EEC.
To effect correct application of the requirements stated in the EEC Directives, the following standards were consulted:

ETS 300 445
ETS 300 422

Important:
Before putting the device into operation, please observe the respective country-specific regulations!

DÉCLARATION DE CONFORMITÉ

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark déclarons que cet appareil est conforme aux prescriptions fondamentales dans la Directive de la CEE 89/336/CEE.
Pour mettre en pratique dans la règle de l'art les prescriptions des Directives de la CEE, il a été tenu compte des normes suivantes:

ETS 300 445
ETS 300 422

Important:
Avant d'utiliser l'appareil, veuillez observer les dispositions légales en vigueur dans votre pays.

CERTIFICATO DI CONFORMITÁ

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark dichiariamo che questo apparecchio risponde alla normativa 89/336/EWG. Per un'appropriato risconto nell'ambito della normativa CEE sono state consultate le seguenti normative:

ETS 300 445
ETS 300 422

Nota:
Prima della messa in funzione seguite le prescrizioni vigenti nel paese nel quale viene utilizzato!

DECLARACIÓN DE CONFORMIDAD

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark declaramos que este aparato cumple los requerimientos básicos de la normativa de la CEE 89/336/CEE.
Con el fin de realizar de forma adecuada los requerimientos referidos en las normativas de la CEE fueron consultadas las siguientes normativas:

ETS 300 445
ETS 300 422

Observación:
!Anterior a la puesta en funcionamiento deberán observarse las correspondientes ordenanzas nacionales!

CONFORMITEITSVERKLARING

Sennheiser electronic GmbH & Co. KG, Am Labor 1, D-30900 Wedemark verklaren, dat dit toestel evereenkomt met de basiseisen van de EG-richtlijn 89/336/EEG.
Om de eisen, die in de EG-fichtlinien vermeld zijn, in juiste vorm om te zetten, zijn van volgende normen gebruik gemaakt:

ETS 300 445
ETS 300 422

Opmerking:
Voor inbedrijfstelling dient u de afzonderlijke landspecifieke voorschriften in acht te nemen!

CETECOM ICT Services GmbH

EC Identification number 0682

authorized by the German Government

with decree Vfg 28/2000 , issued in the Official Journal 6/2000
of the Regulierungsbehörde für Telekommunikation und Post,
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 09. March 1999.

CERTIFICATE
EXPERT OPINION

Registration-No.: **E811535M-EO**

Certificate Holder: **Sennheiser electronic GmbH & Co. KG**

Am Labor 1
30900 Wedemark

Product Designation: **SK 50 VHF**

Product Description: **Microport Transmitter**

Product Manufacturer: **Sennheiser electronic GmbH & Co. KG**
Am Labor 1
30900 Wedemark

Essential requirements	Specifications / Standards	Submitted documents	Result
Radio spectrum (R&TTE, Article 3.2)	I-ETS 300 422,Dec.1995	Test Report(s)	conform

Marking: **The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.**

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The scope of this evaluation relates to the submitted documents only.
The certificate is only valid in conjunction with the following **number** of annexes.

Number of annexes: **1**

Saarbrücken, 12.10.00
Place, Date of Issue

Signed by Edgar Janz
Notified Body

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CETECOM ICT Services GmbH, Untertürkheimer Straße 6-10, D-66117 Saarbrücken, Germany
http://www.cetecom.de

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CERTIFICATE
EXPERT OPINION

Registration-No.: **E811533M-EO**

Certificate Holder: **Sennheiser electronic GmbH & Co. KG**

Am Labor 1
30900 Wedemark

Product Designation: **SK 50 UHF**

Product Description: **Microport Transmitter**

Product Manufacturer: **Sennheiser electronic GmbH & Co. KG**
Am Labor 1
30900 Wedemark

Essential requirements	Specifications / Standards	Submitted documents	Result
Radio spectrum (R&TTE, Article 3.2)	I-ETS 300 422,Dec.1995	Test Report(s)	conform

Marking: **The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.**

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Signed by Edgar Janz
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of the Regulierungsbehörde für Telekommunikation und Post,
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 09. March 1999.**

CERTIFICATE
EXPERT OPINION

Registration-No.: **E811564M-EO**

Certificate Holder: **Sennheiser electronic GmbH & Co. KG**

Am Labor 1
30900 Wedemark

Product Designation: **SK 250 VHF**

Product Description: **Radio Microphone System**

Product Manufacturer: **Sennheiser electronic GmbH & Co. KG**
Am Labor 1
30900 Wedemark

Essential requirements	Specifications / Standards	Submitted documents	Result
Radio spectrum (R&TTE, Article 3.2)	I-ETS 300 422	Test Report(s)	conform

Marking: **The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.**

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http://www.cetecom.de

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of the Regulierungsbehörde für Telekommunikation und Post,
to act as Notified Body in accordance with the R&TTE Directive 1999/5/EC of 09. March 1999.**

CERTIFICATE
EXPERT OPINION

Registration-No.: **E811536M-EO**

Certificate Holder: **Sennheiser electronic GmbH & Co. KG**

Am Labor 1
30900 Wedemark

Product Designation: **SK 250 UHF**

Product Description: **Microport Transmitter**

Product Manufacturer: **Sennheiser electronic GmbH & Co. KG**
Am Labor 1
30900 Wedemark

Essential requirements	Specifications / Standards	Submitted documents	Result
Radio spectrum (R&TTE, Article 3.2)	I-ETS 300 422,Dec.1995	Test Report(s)	conform

Marking: **The product shall be signed with CE, our notified body number and the Class II identifier (Alert sign) as shown right hand.**

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Number of annexes: **1**

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